OctiveTech 300AH

HANDHELD OXIMETER

OPERATING

INSTRUCTIONS

Octive Technologies U.S.A.

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Contents

CHAPTER 1 INTRODUCTION

1.1 Brief Introduction

Thank you for using the handheld pulse oximeter. The main functions of this device are to measure SPO2 and PR, visual and audio alarm, sensor off alarm, data storage and replay etc. Please read the operator's manual carefully before operating it.

Application range: The device is used to monitor patient's arterial oxygen saturation and pulse rate continuously.

1.2 Safety Information

● The handheld pulse oximeter is to be operated by qualified personnel only.

Before using, carefully read this manual, directions for using of accessory, all precautions, and all specifications. The user must check that the equipment functions safely and ensure that it is in proper working condition before being used.

● The is intended for use only as an adjunct in patient assessment. It must be used in conjunction with clinical signs and symptoms.

● To avoid an electrical hazard, never immerse the unit in any fluid or attempt to clean it with liquid cleaning agents. Always take out the batteries before cleaning.

● If oximeter becomes accidentally wet during use, stop operation of the oximeter until all affected

components have been cleaned and permitted to dry completely. Contact your local representative if additional information is required.

● If any parameters displayed on oximeter is not accurate, adopt the other methods to diagnosis patient.

● The medical equipment must be manipulated by personnel who have already gotten the relative training of operation.

● For safe and accurate operation, use only recommended accessories. Request for the special children or infant accessories, when monitoring infant or

children.

● Do not use the oximeter in the presence of a flammable anesthetic mixture with air, oxygen or nitrous   oxide

● Alarm must be set up according to different situation of individual patient. Make sure that audio sound can be activated when alarm occurs.

● For proper equipment maintenance, perform the service procedures at the recommended intervals as described in the manual.

●Do not use the oximeter during Magnetic Resonance Imaging (MRI) scanning. Induced current could   potentially cause burns. The oximeter may affect the MRI image, and the MRI unit may affect the accuracy of oximeter measurements.

● The oximeter can monitor only one patient synchronously.

● As to the other points for attention, please carefully read the relevant chapter in this instruction.

1.3 Electromagnetism interference

The oximeter is low power consumption device. It will not interference surrounding people, device and environment. Nevertheless, if there is strong electromagnetic interference near the equipment, it may result in harmful interference, even makes performance inactivate. Therefore, if any the warp of anticipated effect appears, you should firstly prevent, identify and solve the adverse electromagnetic interference, then proceed to use the device.

To reduce possible problems caused by electromagnetic interference, we recommend the following:

1.   Interference from adjacent radio or mobile phone.

If the radio is the interference source, install the equipment in other place. If the mobile phone is the source, make it far away from the equipment.

2.   Direct and indirect electrostatic discharge:

Before using equipment, make sure operator and patient who touch the equipment have no direct or indirect electrostatic power. Damp room is helpful to remit such problem.

1.4 Conception of Warning, Caution and Note

Warning, Caution and Note

The Warning, Caution and Note in the manual are special information to draw the operator's attention.

● **Warning**

Tell you about something that could hurt patient or operator.

● **Caution**

Remind user to pay more attention to error operation, which may induce the possibility of the patient's hurt and death, includes abnormal function, crash, damaged equipment and other property.

● **Note**

Tell you other important information like suggestion, requirement and supplement

CHAPTER 2 OVERVIEW OF OXIMETER

2.1 Summary

Our new-type handheld pulse oximeter can monitor SPO2 and PR.

2.2 Specifications

Display

Size:	55mm*27.5mm
Resolution:	128*64
Displaying Waveform:	SPO2, pulse column
Data:	SPO2%, PR
Others:	Connection status of probe, time and remaining battery energy

Alarm

Alarm:	SPO2%, probe off
Alarm mode:	audio alarm, visual alarm (flash the value) and information
Alarm switch:	turn on or off alarm

SPO2

Display range:	0%~100%
Resolution:	1%
Accuracy:	2% (70-100%) Unspecified (0-69%)

Pulse Rate

Display range :	0~254bpm
Measurement range:	30~254 bpm (zero is ---)
Resolution:	1bpm
Accuracy:	2bpm or2%

Operation Environment

Operating temperature:	5℃~40 ℃
Relative humidity:	≤80%
Atmosphere pressure:	86kPa～106kPa
Power supply:	4 AA Ni-MH batteries or AC-DC 6V
Working time:	work for 24 hours continuously

Trend

Recall 24 hours trend graph of SpO2 and PR

Store and replay

Store and replay more than 24 hours parameters of SPO2%, PR. The time interval is 1 minute.
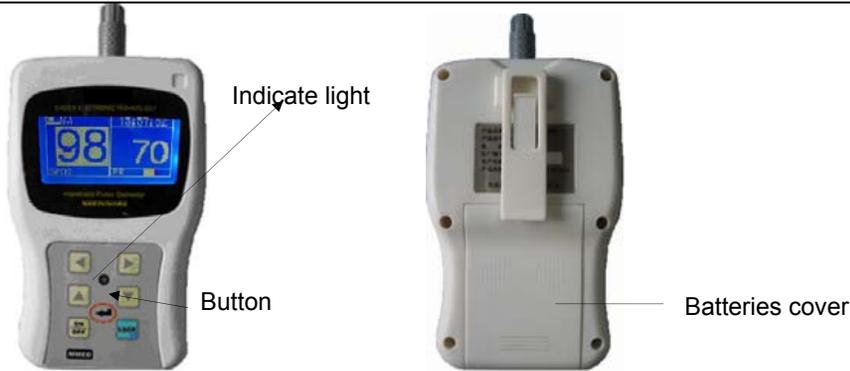
CHAPTER 3 Operation Guide

3.1 Appearance

SPO2 socket

Indicate light

Button

Fig 3.1(Front)

Batteries cover

Fig 3.1(Back)

3.2 Display

The handheld pulse oximeter uses graphic dot matrix LCD to display. It can display the value and the waveform synchronously or display the value only by selecting menu. Please refer to Fig 3.2　3.3.
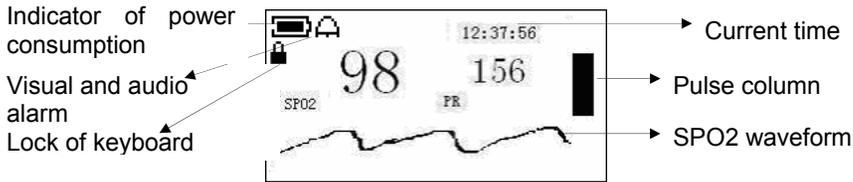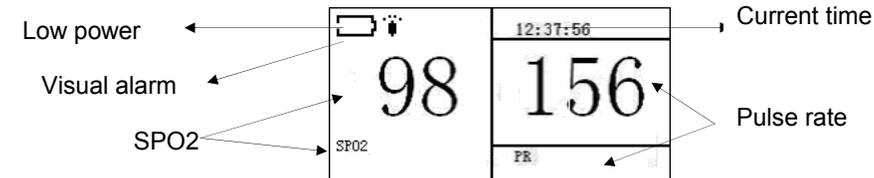
Indicator of power consumption

Current time

Visual and audio alarm

Pulse column

Lock of keyboard

SPO2 waveform

Fig 3.2

Low power

Current time

Visual alarm

Pulse rate

SPO2

Fig 3.3

Instruction：
SPO2: SPO2 value（displaying value is 98% now）
PR：Pulse rate（displaying value is 156bpm now）
Technical alarm: Probe off: indicate SPO2 probe off;

No Finger: indicate SPO2 probe does not detect finger
12:37:56: Current time is 12:37:56 now
Low power: When ⬛ displays on the screen, it means the power is low and you should change batteries promptly.

3.3 Operation

3.3.1 Power on/off the oximeter

The oximeter can work orderly after putting on batteries and enter the default display automatically. If you want to power off the oximeter, press the "ON/OFF" button for several seconds.

3.3.2 Function buttons

⇨　Right button　　Enter main menu from normal display and change the setting value
⇦　Left button　　Enter main menu from normal display and change the setting value
⇧　Up button　　Menu selection
⇩　Down button　　Menu selection
⇐ Enter button　　Confirm the operation and return the previous menu
F1　　The button is useless now.
LOCK　　Lock keyboard
ON/OFF Power switch

3.3.2.1 Use of the "LOCK" button

In the main interface showed as Fig 3.2, pressing the "LOCK" button, "press ENTER to lock keyboard" will be presented on the display, then press "ENTER" button, the keyboard is locked, 🔒 displays on the screen. In that case, any buttons is useless unless releasing "LOCK", press the "LOCK" button and "press ENTER to unlock keyboard" shown on the display, press "ENTER" button.

3.3.2.2 Use of the "ON/OFF" button

When the oximeter is powered on, press the "ON/OFF" button for several seconds to power off; when the oximeter is powered off, press the "ON/OFF" button for several seconds to power on.

3.3.3 Main menu

Press ⇦ or ⇨ can enter main menu. Sometimes the monitored parameters can not be displayed synchronously in one screen, press ⇩ or ⇧ to rotate the screen.

The menu is shown as Fig3.4

| 0 Display Type |
| 1 Alarm Set |
| 2 Data Manage |
| Cancel   Select |

| 3 Time Set |
| 4 Date Set |
| 5 Pulse Audio |
| Cancel   Select |

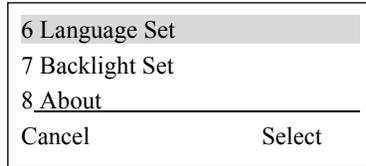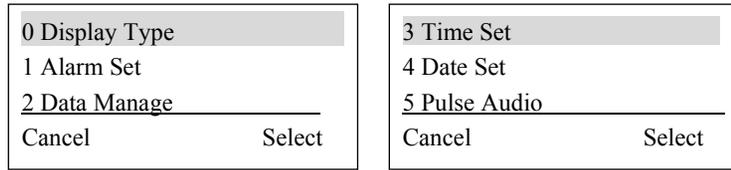| 6 Language Set |
| 7 Backlight Set |
| 8 About |
| Cancel   Select |

Fig 3.4

In the main menu, press ⇩ or ⇧ to highlight the item you want to select, then press ⇨ enter the submenu or press ⇦ to cancel the selection, return the normal interface. You can also press the "ENTER" button to return the normal interface.

3.3.4 Display Type

Enter the "Display Type" submenu from main menu, there are two selections shown as the Fig3.5. Press   or ⇩ to highlight the Data or Waveform, press the "ENTER" button to return the main menu.
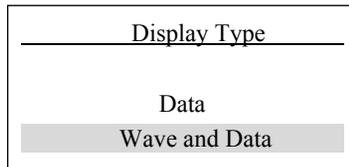
| Display Type |
| |
| Data |
| Wave and Data |

Fig 3.5

Attention: the oximeter only displays the approximate waveform.

3.3.5 Alarm Set：

Enter the "Alarm set" submenu from main menu. The setup of the alarm includes

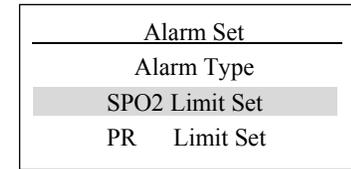on/off, the setup of alarm limit. Please refer to Fig 3.6

| Alarm Set |
| Alarm Type |
| SPO2 Limit Set |
| PR   Limit Set |

Fig 3.6

Press ⇩ or ⇧ to highlight the submenu, press ⇨ to enter the submenu. Enter the Alarm Type submenu shown as Fig 3.7, now you can press ⇧ or ⇩ to select the items of submenu. Press the "ENTER" button to return the main menu.

Attention: There are three selections for the Alarm Type. The first is "Visual Alarm", when you select this item, only visual alarm is responded when alarm event happens, the audio alarm is mute, ♦ displays on the left top corner of the screen; The second is "visual and audio", when you select this item, the visual and audio alarm are activated when new alarm occurs, ⌂ displays on the left top corner of the screen. The last one is "off", when you select this item, the visual and audio alarm are inactivated. No alarm is responded when the alarm event happens, ⌀ displays on the left top corner of the screen. Press the "ENTER" button to return the previous menu. When the value and waveform are displayed on the screen, pressing "ENTER" button can switch ⌂ and ♦.

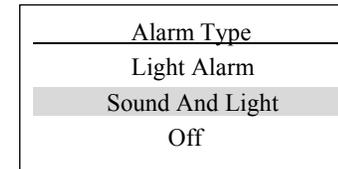| Alarm Type |
| Light Alarm |
| Sound And Light |
| Off |

Fig 3.7

Select "SPO2 Limit Set" item in the menu shown as Fig 3.6 and press ⇨ to enter the submenu shown as Fig 3.8. Pressing ⇩ or ⇧ to select "Upper Limit" or "Lower Limit". Pressing ⇦ or ⇨ to set the limits. Press the "ENTER" button to restore the previous menu.

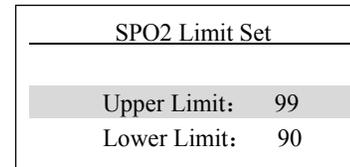| SPO2 Limit Set |
| |
| Upper Limit：   99 |
| Lower Limit：   90 |

Fig 3.8

Select "PR Limit Set" item in the menu shown as Fig 3.6 press ⇨ to enter the submenu shown as Fig 3.9. Pressing ⇩ or ⇧ to select "Upper Limit" or "Lower Limit". Pressing ⇦ or ⇨ to set the limits. Press the "ENTER" button to return the

previous menu.

```
        PR Limit Set
    ────────────────────
    Upper Limit：    100
    Lower Limit：     50
```
Fig 3.9

3.3.6 Data Management

Select the "Data Management" item in the main menu shown as Fig 3.4 and enter the "Data Management" submenu shown as Fig 3.10. You can adjust the display and management of historic data. Sometimes the monitored parameters can not be displayed synchronously in one screen, you can press ⇩ or ⇧ to change the screen.

Press ⇩ or ⇧ to highlight the item you want to set, then press ⇨ to enter the submenu. Press the "ENTER" button to return the main menu.

```
    ──────────────          ──────────────
     Data Manage             Data Manage
    ──────────────          ──────────────
     Data Browse             SPO2 Trend
     SPO2 Trend              PR Trend
     PR Trend                Clear Data
```
Fig 3.10

3.3.6.1 Data Browse

Highlight the "Data Browse" shown as Fig 3.10 then press ⇨ to enter the "Data Browse" shown as Fig 3.11

```
    Time        SPO2      PR
    09:01:00     98       56
    09:02:00     98       56
    09:03:00     98       56
    09:04:00     98       56
    09:05:00     98       56
    09:06:00     98       56
    09:07:00     98       56
```
Fig 3.11

In the interface shown as Fig 3.11, press ⇦ or ⇨ to change the interval. The longest interval is 10 minutes, press ⇩or ⇧to change the screen to view the data, press the "ENTER" button to return the previous menu.

3.3.6.2 SPO2 Trend

Highlight the "SPO2 Trend" shown as Fig 3.10 to display the SPO2 trend graph shown as Fig3.12
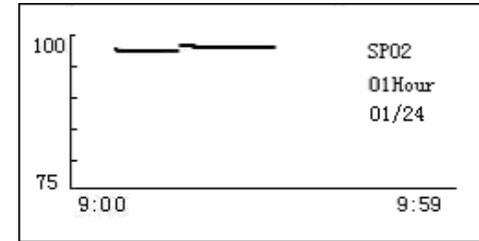

Fig 3.12

The ordinate shown as Fig 3.12 represents the value of SPO2, the abscissa represents the time. 60 points can be displayed synchronously in one screen at most, the trend for one hour. Each time on the abscissa matches with SPO2% monitored at that time. The "SPO2" displayed on the left top corner of the screen means SPO2 trend graph. "01 hour" means one-hour trend graph. "01/24"means there are 24 pages in all and this is the first page.

Press ⇨ or ⇦ you can select one hour, eight hours and 24hours trend graph. "60Dot" means the actual points displayed on the screen now.

You can press ⇩ or ⇧ to change the screen to view the trend graph when more than one screen points (60 points) to be displayed on the screen.

3.3.6.3 PR Trend

Highlight the "PR Trend" shown as Fig 3.10 to display the PR trend graph Shown as Fig3.13
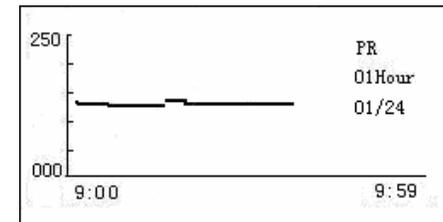

Fig 3.13

The ordinate shown as Fig 3.13 represents the value of pulse rate, the abscissa represents the time. 60 points can be displayed synchronously in one screen at most, the trend for one hour. Each time on the abscissa matches with PR monitored at that time. The "PR" displayed on the right top corner of the screen means PR trend graph. "01 hour" means one-hour trend graph. "01/24" means there are 24 pages in all and this is the first page.

Press ⇨ or ⇦ you can select one hour, eight hours and 24hours trend graph. "60Dot" means the actual points displayed on the screen now.

You can press the ⇩or ⇧to change the screen to view the trend graph when more than one screen points (60 points) to be displayed on the screen.

3.3.6.4 Clear Data

Highlight the "Clear Data" shown as Fig 3.10 and enter the interface Shown as Fig3.14
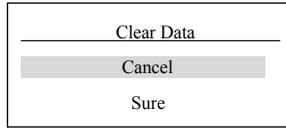
```
         Clear Data
          Cancel
          Sure
```

Fig 3.14

Press ⇩ or ⇧ to select "Cancel" or "Sure" then press the "ENTER" button to confirm, return the previous menu.

3.3.7 Time Set

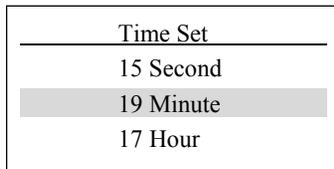Highlight the "Time Set" in main menu shown as Fig 3.4 then you can see the "time set" submenu shown as Fig 3.15.

```
          Time Set
         15 Second
         19 Minute
         17 Hour
```

Fig 3.15

Press ⇩ or ⇧ to highlight the item you want to set, then press ⇦ or ⇨ to adjust the item you selected. Press the "ENTER" button to return the previous menu.

3.3.8 Date Set

Highlight the "Date Set" in main menu shown as Fig 3.4 then you can see the "Date set" submenu shown as Fig 3.16.

```
          Date Set
          15 Day
         12 Month
         2004 Year
```

Fig 3.16

Press ⇩ or ⇧ to highlight the item you want to set, then press ⇨ or ⇦ to adjust the item you selected. Press the "ENTER" button to return the previous menu.

3.3.9 Pulse Audio

Highlight the "Pulse Audio" in the main menu shown as Fig 3.4, then you can enter the "pulse audio" submenu shown as Fig 3.17. Pressing ⇨ or ⇦ to select on or off for pulse audio. Press the "ENTER" button to return the previous menu.

```
         Pulse Audio

           ON
           OFF
```
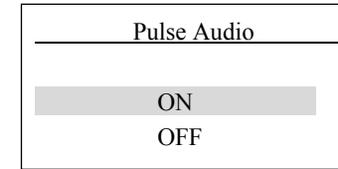
Fig 3.17

3.3.10 Language Set

Highlight the "Language Set" in the main menu shown as Fig 3.4, then you can enter the "Language Set" submenu shown as Fig 3.18. Pressing ⇨ or ⇦ to select language. Press the "ENTER" button to return the previous menu.

```
         Language Set

          English
          Chinese
```

Fig 3.18

3.3.11 Backlight Set
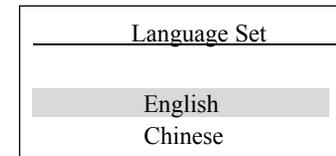
Highlight the "Backlight Set" in the main menu shown as Fig 3.4 and enter the "Backlight Set" Submenu shown as Fig 3.19.Press ⇩or ⇧to select "Always on" or the time you want the backlight to last. "Always on" means the backlight will always be on, press ⇦ or ⇨ to change the time how long the backlight will be lit, the unit is second. Press the "ENTER" button to return the main menu.
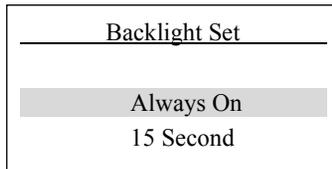
Backlight Set

Always On

15 Second

Fig 3.19

3.3.12 System Setting

Enter the submenu from the main menu, where it shows the system information and the version shown as Fig3-20
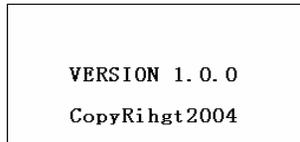
VERSION 1.0.0

CopyRihgt2004

Fig 3.20

3.4 Power Supply

The oximeter uses 4 AA Ni-MH rechargeable batteries, which can work 24 hours continuously.

CHAPTER 4 Use Guide

4.1 Necessary Setup before Operating

4.1.1 Adjusting date and time

Once the oximeter being powered on, the current time will be displayed on the right top corner. Check whether the time is exact, if not please adjust it. As for detailed operation, please refer to the time setup in Chapter 3 operation guide.

4.1.2 Clearing the old record

The measured records are not cleaned away automatically. We advise user to clear the previous data before operation.

4.1.3 Setup of alarm limit

The default high/low alarm limit of the oximeter have been set when ex work, but user can also set the new alarm limits according to the patient's conditions for realizing the best performance of oximeter.
As for the detailed operation, please refer to the alarm setting of Chapter 3 Operation Guide.

4.2 SPO2 (Arterial oxygen saturation) Monitor

4.2.1 Chief introduction

What is SpO2 Monitoring?

SpO2 plethysmogram measurement is employed to determine the oxygen saturation of hemoglobin in the arterial blood，that is the percentage of hemoglobin molecules and oxygen molecules。For example, 97% hemoglobin molecules in the red blood cells of arterial blood combine with oxygen, then the blood has a Spo2 oxygen saturation of 97%，the Spo2 numeric on the monitor will read 97%.The Spo2 numeric shows the percentage of hemoglobin molecules that have combined with oxygen molecules to form oxhemoglobin. SpO2 /PLETH parameter can also provide a pulse rate signal and a plethysmogram wave.

How do the SpO2/PLETH parameters work?

Arterial oxygen saturation is measured by a method called pulse oximetry. It is a continuous, no-invasive method. It measures how much light, sent from light sources on one side of the sensor, is transmitted through patient tissue to a receiver on the other side.
The amount of light transmitted depends on many factors, most of which are constant. However, one of these factors is blood flow in the arteries varies with time, because it is pulsating. By measuring the light absorbing
during the pulsation, it is possible to get the oxygen saturation of arterial blood. Detecting the pulsation gives a PLETH waveform and pulse rate signal.
Spo2 value is shown in the form of numerical value, PLETH waveform is shown in the form of graph on the screen.

Warning：**If there is carbon oxygen hemoglobin, high iron hemoglobin or dye dilution agent on the sensor, it would lead to inaccurate Spo2 value.**

4.2.2 Monitoring Spo2%/Pluse rate

Warning：**Do not tangle with SpO2 cable with the wires of ES(Electro surgery) equipment.**

Warning：**Do not put the sensor on extremities with arterial catheter or venous syringe.**

Caution ：**Do not perform SpO2 measuring and NIBP measuring in same arm at one time, because obstruction of blood flow during NIBP measuring may adversely affect the reading of SpO2 value.**

SpO2 plethysmogram measurement
● Select the appropriate type and size sensor
● Attach the sensor to the appropriate site of the patient finger
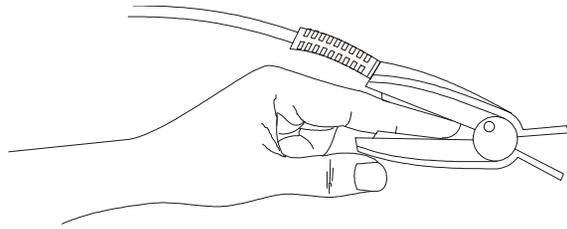● Plug the connector of sensor into SpO2 socket on the top panel of pulse oximeter.

Fig 4.1 placement of the sensor

4.2.3 Limitation for measurement

In operation, the accuracy of oximetry readings can be affected by the following factors.

4.2.3.1 Whether the performance of measurement is content or not depends on the pulsant in the artery. The measurement would not be performed if the following instances come across in operation:

● Shock
● Low temperature of hand
● Have taken vascular activity medicine
● Anemia

4.2.3.2 Whether the performance of measurement is content or not also depends on the absorption of oxyhaemoglobin and deoxyhemoglobin for special wavelength.

If there are substances absorbing the same wavelength, which would induce false or low SpO2 value, for examples:
● carboxyhemoglobin
● methemoglobin
● methylene blue
● Indigo carmine

4.2.3.3 Extreme illumination would affect the Spo2 measurement, using nontransparent cover to shield the sensor would get the better performance.

Note：**Pulse sensor should obviate the light source, e.g. radial lamp or infrared lamp.**
Prolonged and continuous monitoring may increase jeopardy of unexpected change of dermal   condition such as abnormal sensitivity, rubescence, vesicle, repressive putrescence, and so on. It is especially important to check the sensor placement of neonate and patient of poor perfusion or immature dermogram by light collimation and proper attaching strictly according to changes of the skin. Check per 2~3 hours the sensor placement and move it when the skin deteriorates.

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        condition such as abnormal sensitivity, rubescence, vesicle, repressive putrescence, and so
        on. It is especially important to check the sensor placement of neonate and patient of poor
        perfusion or immature dermogram by light collimation and proper attaching strictly according
        to changes of the skin. Check per 2~3 hours the sensor placement and move it when the skin
        deteriorates.

Do not immerse sensor completely in water, Do not immerse sensor completely in water solvents or cleaning agent because the sensor and connector are not waterproof.

If cable is damaged, please stop using it immediately
Cleaning：
Moisten the soft cloth or gauze with alcohol and use it to wipe the surface of sensor, and then use the clean cloth to dry it .The same method can be used to clean the light source and photo detector.
Cable can be disinfected by 3% of hydrogen-peroxide or 70% of isopropyl alcohol. Do not immerse the connector into the liquid.

4.3 Alarm

There are three level alarms in oximeter:

High level: "DO-DO-DO---- DO-DO"indicates
- There are some problems with module, which can't be used.
- The measured value exceeds the set limit, please pay attention to it.
      Alarm sound: it is triggered once per 8 seconds. Alarm light: 2 times per second, light on for half second,
      light off for another half   second.

  Medium level: "DO-DO-DO" indicates:
- The value of the PR exceeds the alarm limit.
- Pleth waveform cannot be detected.
  Alarm sound: once per five seconds. Alarm light: once per 2 seconds, light on for one second, light off for another one second.
  Low level: "DO-" indicates Probe off
  Alarm sound: once per 5 seconds. Alarm light: once per 4 seconds, light on for one second, light off for three seconds.
  The setups of the audio and visual alarm can be alternated, please refer to the Chapter 3 in details.

CHAPTER 5 MAINTENANCE and REPAIR

5.1 Maintenance

It is very important for user to make daily maintenance of oximeter and parts, which

guarantees our company to perform the maintenance service. If user does not do according to the below stipulations and lead to oximeter failure and possible health damage, our company has right to change the warranty period.
a)   Should make the effective maintenance plan for oximeter and reused parts. This plan includes inspection and clearance, must comply with the policy issued by the institution of epidemic control and Health Ministry in your country.
b)   Please take out battery before cleaning the oximter.
c)   Please clear the device regularly.(must comply with the policy issued by the institution of epidemic control and Health Ministry in your country) The appearance of oximeter can be cleared by not-denuded wet cloth.
  Please use the following permitted solutions:
- Ammonia (diluted)
- Glutaraldehyde
- Javel bleacher (diluted)
- Mild soap water (diluted)

Please comply with the following regulations to avoid oximeter damage:
- Be sure to dilute the solution recommended by the manufacturer all the time.
- Wipe up all the solutions by dry cloth after clearance all the time.
- Don't use the solution with wax.
- Don't douse or spurt any clearance solution on oximeter or any slots of monitor.
- Don't use the following agents:
  ○ Any kind of scrub solution or impregnant
  ○ Acet
  ○ Ketone
  ○ Agent with alcohol
  ○ Lycine
- If you want to clear displaying screen, please use the clean soft cloth
      Don't directly spurt agent on displaying screen, or use any alcohol and medical disinfector to sterilize the monitor (Glutaraldehyde or lycine).
- Lead and cable can be cleaned by soft, wet cloth and soft soap water. Other methods may shorten the lives of accessories.
d) Please note the items during operation:
- Should unmount the probe from the oximeter and care it well after operation.

- Please take the batteries out and remain it with plastic if the monitor would not be used for long   time.
- Don't make the monitor get the agents.
If some abnormal cases happen, please stop using monitor immediately, and only after inspection by technical person, it can be reused.

5.2 Trouble Shooting

a) The oximeter can't be powered on
Please check the batteries. If you use the external power supply, please check if the power supply is connected with oximeter properly.
b) "Probe off " alarm
Please check if the probe is connected with the oximeter correctly. If the sensor is with extension cable please check if the extension cable is connected with the sensor correctly.
c) "No finger" alarm
Please check whether the sensor is correctly connected with patient's finger.

5.3 Warranty and Repair

5.3.1 Maintenance Method
a)   Maintenance time: 9:00am～17:30pm, Monday to Friday
b)   Service support: our company offers the support by hot line, e-mail or spares parts.

Spare parts: our company changes parts if it is necessary free of charge in the warranty period.
Because parts are the sources of maintenance, user should send them back to our company if not specified.
c)   Update the system software free of charge.

5.3.2 Exempt and limitation:
a)   Our company isn't responsible for such damage caused by force majeure. For example: fire, thunder flash, flood, cyclone, hail, earthquake, house collapse, commotion, plane failing and traffic accident, deliberate damage, lack of fuel or water, labor and capital bother, strike and stop-working etc.

b)   Non-service items

● The corresponding charge and insurance charge of disassembling, refurbishing, repackaging and moving the oximeter or the part of it.
● The damage caused by the third company not commended by our company to adjust, install replace the parts of the oximeters.
● The damage and failure caused by the users incorrect operations not complying with the operator's   manual.

c)   Our company will not provide the free maintenance in the warranty if the oximeter is installed or connected with the external devices which are not permitted by Our company, e.g. printer, computer, cable and lead to oximeter failure. Our company will charge for the maintenance.

d)   Responsibility limitation
During the period of warranty, if user changes the parts manufactured by the third party without our company permission, our company is entitled to stop contract.

5.3.3 User Guarantee
a)   Please read user manual carefully before operation
b)   Please operate the oximeter as the requests in the manual and make the daily maintenance
c)   Please guarantee the power supply and the working environment of monitor

5.3.4 Non-guarantee principle
● There is no-dispelled smut and not-original mark in the crust.
● There is physical damage on oximeter and its accessory.
● There are liquid leftover and eyewinker on oximeter and lead to short circuit and plugboard failure.
● All the probe and accessories belong to consumption and beyond free change range.
● Such damage of probe caused by mechanical force doesn't belong to free change range.
● During measurement of SPO2, principle leads to measure value difficult or inaccurate measurement.
● Maintenance seal of oximeter are not opened.
● Not-original package lead to oximeter during transportation
● Not-professional person operation lead to oximeter failure. Not our company professionals or authorized personnel disassemble oximeter and lead to oximeter failure.
● Not carefully read manual and so wrong operation lead to oximeter damage and failure.

5.3.5 User's Special Request for Guarantee Time
Our guarantee constitution for oximeter complies with electronic product after-sale service standard regulated by national laws. We regulate the guarantee time of hoistboard is one year and all the accessories are three months. If users request the guarantee time beyond our regulated guarantee time, we should take it into consideration. Because electronic product has such character of quick changing, for such user asking more than three years guarantee time, our company will not buy oximeter parts during maintenance. Our company will upgrade oximeter or change new maintenance methods, for this, we charge the lowest price for new oximeter with user permission.

5.3.6 Repackage
● Take all the accessories and put them into plastic cover

- Try to use original package and packing material. User will be responsible for such damage caused by bad package during transportation.
- please offer guarantee list and copy of invoice to standby with the period of guarantee.
- please describe failure phenomenon in detail and altogether offer oximeter.

Storage and Transportation

Storage: Storage Temperature -10°C～40°C，Relative Humidity ＜90%

Transportation：Transport by air, train or vessel after packing according to request.

Packing list:

The standard accessories:

No.	Accessories	Quantity
1	Handheld pulse oximeter	1 piece
2	Spo2 probe	1 pack
3	Oximeter Jacket	1 piece
4	Belt	1 piece
5	AA battery	4 piece
6	Operator's manual	1 piece

The optional accessories:

No.	Accessories	Quantity
1	DC 6v power supply Adapter	1 piece
2	BCI sensor	1 piece
3	Nellcor sensor	1 piece